

II. CLAIM AMENDMENTS

1. (Original) A data packet transmission method in a packet-switched telecommunication system with a telecommunication protocol comprising a convergence protocol layer for adapting user data packets to convergence protocol packets and a link layer for transmitting the convergence protocol packets as data units and for acknowledging the transmission, the method comprising the steps of:

defining by means of a counter a data packet number for the convergence protocol packets to be transmitted;

transferring the convergence protocol packets to be transmitted to the link layer to be transmitted;

defining a data packet number for received convergence protocol packets by means of the counter;

acknowledging the received convergence protocol packets to a transmitter;

transmitting an identification data of convergence protocol packets lost on the link layer to a recipient in response to the link layer being not capable of securing a reliable transmission of the convergence protocol packets; and

updating a counter value of the recipient to correspond to a counter value of the transmitter such that the lost

convergence protocol packets are taken into account in the counter value.

2. (Currently Amended) A method as claimed in claim 1, further comprising ~~the steps of:~~

identifying the convergence protocol packets lost on the link layer to the recipient by defining a number of the lost convergence protocol packets and a data unit sequence number of the link layer that is assumed to be received next.

3. (Original) A method as claimed in claim 2, further comprising the step of:

identifying each lost convergence protocol packet to the recipient by defining a link layer sequence number associated with each lost convergence protocol packet.

4. (Original) A method as claimed in claim 3, further comprising the step of:

identifying each link layer sequence number associated with the lost convergence protocol packet.

5. (Original) A method as claimed in claim 1, further comprising the step of:

transmitting the identification data of the convergence protocol packets lost on the link layer to the recipient in a link layer data unit comprising a command to move a receiving window (MRW).

6. (Currently Amended) A method as claimed in claim 1, further comprising the step of acknowledging the transmission using a packet-switched mobile communication system, comprising a Universal Mobile Telecommunication System or a General Packet Radio Service system.

7. (Original) A method as claimed in claim 6, wherein the method is applied to a handover between the Universal Mobile Telecommunication System and the General Packet Radio Service .

8. (Original) A method as claimed in claim 6, wherein the method is applied to a handover between the Universal Mobile Telecommunication System radio network subsystems.

9. (Currently Amended) A packet-switched telecommunication system comprising:

a terminal;

a fixed network comprising a network element supporting a packet-switched data transmission in which telecommunication system data packets are arranged to be transmitted between the terminal and the network element; and wherein

a telecommunication protocol for the telecommunication system comprises:

a convergence protocol layer for adapting user data packets to convergence protocol packets; and

a link layer for transmitting the convergence protocol packets as data units and for acknowledging the transmission; and wherein

during a data packet transfer between the terminal and the network element:

a data packet number is arranged to be defined by means of a counter for the convergence protocol packets to be transmitted τ_i ;

the convergence protocol packets to be transmitted are arranged to be transferred to the link layer to be transmitted τ_i ;

a data packet number is arranged to be defined for the received convergence protocol packets by means of a counter τ_i ;

the received convergence protocol packets are arranged to be acknowledged τ_i ;

an identification data of lost convergence protocol packets are is arranged to be transmitted on the link layer to a recipient in response to the link layer being not capable of securing a reliable transmission of the convergence protocol packets; and

a counter value of the recipient is arranged to be updated to correspond to a counter value of a transmitter such that the lost convergence protocol packets are taken into account in the counter value of the recipient.

10. (Original) A telecommunication system as claimed in claim 9, wherein the lost convergence protocol packets are arranged to be identified on the link layer to the recipient by defining a number of the lost convergence protocol packets and a data unit sequence number of the link layer that is assumed to be received next.

11. (Original) A telecommunication system as claimed in claim 10, wherein each lost convergence protocol packet is arranged to be identified separately to the recipient by defining the link layer sequence number associated with each lost convergence protocol layer.

12. (Original) A telecommunication system as claimed in claim 11, wherein the link layer sequence number associated with each lost convergence protocol packet is arranged to be identified separately.

13. (Currently Amended) A telecommunication system as claimed in claim 9, wherein an the identification data of lost convergence protocol packets are arranged to be transmitted on the link layer to the recipient in a link layer data unit comprising a command to move a receiving window (MRW).

14. (Original) A telecommunication system as claimed in claim 9, wherein the telecommunication system is a mobile communication system, such as a Universal Mobile Telecommunication System or a General Packet Radio Service system, using a packet-switched telecommunication protocol.

15. (Original) A telecommunication system as claimed in claim 14, wherein the counter value of the recipient is arranged to be updated by means of the identification data of the lost convergence protocol packets in a handover between a Universal Mobile Telecommunication System and a General Packet Radio Service .

16. (Original) A telecommunication system as claimed in claim 14, wherein the counter value of the recipient is arranged to be updated by means of the identification data of the lost convergence protocol packets in a handover between a Universal Mobile Telecommunication System radio network subsystems.

17. (New) A terminal for a packet-switched telecommunication system, said terminal being arranged to transmit data packets to a network element supporting a packet-switched data transmission, said terminal comprising:

means of a counter for defining a data packet number for the convergence protocol packets to be transmitted between the terminal and the network element;

means for transferring the convergence protocol packets to be transmitted to the link layer to be transmitted,

means of a counter for defining a data packet number for the received convergence protocol packets;

means for receiving acknowledgements of the received convergence protocol packets from said network element; and

means for transmitting the identification data of the lost convergence protocol packets on the link layer to said network element in response to the link layer being not capable of securing a reliable transmission of the convergence protocol packets.

18. (New) A terminal as claimed in claim 17, further comprising:

means for identifying the lost convergence protocol packets on the link layer to said network element by defining the number of the lost convergence protocol packets and the data unit sequence number of the link layer that is assumed to be received next.

19. (New) A terminal as claimed in claim 18, further comprising:

means for identifying each lost convergence protocol packet separately to said network element by defining a link layer sequence number associated with each lost convergence protocol layer.

20. (New) A terminal as claimed in claim 19, further comprising:

means for identifying the link layer sequence numbers associated with each lost convergence protocol packet separately.

21. (New) A terminal as claimed in claim 17, further comprising:

means for transmitting the identification data of the lost convergence protocol packets on the link layer to said network element in a link layer data unit comprising a command to move the receiving window.

22. (New) A terminal for a packet-switched telecommunication system, said terminal being arranged to receive data packets from a network element supporting a packet-switched data transmission, said terminal comprising

a link layer for receiving data units and for supplying said data units further to a convergence protocol layer as convergence protocol packets for adaptation into user data packets;

means of a counter for defining a data packet number for the received convergence protocol packets;

means for acknowledging the received convergence protocol packets;

means for receiving identification data of the lost convergence protocol packets on the link layer in response to the link layer being not capable of securing a reliable transmission of the convergence protocol packets, and

means for updating the counter value to correspond to a counter value of the transmitter by taking into account the number of the lost convergence protocol packets in the counter value.

23. (New) A terminal according to claim 22, wherein said telecommunication system is a mobile communication system, such as the UMTS or the GPRS system, using a packet-switched telecommunication protocol, the terminal further comprising:

means for updating the counter value of the recipient by means of the identification data of the lost convergence protocol packets in a handover between the UMTS and the GPRS.

24. (New) A terminal according to claim 22, wherein said telecommunication system is a mobile communication system, such as the UMTS or the GPRS system, using a packet-switched telecommunication protocol, the terminal further comprising:

means for updating the counter value of the recipient by means of the identification data of the lost convergence protocol packets in a handover between the UMTS radio network subsystems.

25. (New) A network element for a packet-switched telecommunication system, said network element being arranged to transmit data packets to a terminal supporting a packet-switched data transmission, said network element comprising:

means of a counter for defining a data packet number for the convergence protocol packets to be transmitted between the network element and the terminal;

means for transferring the convergence protocol packets to be transmitted to the link layer to be transmitted,

means of a counter for defining a data packet number for the received convergence protocol packets;

means for receiving acknowledgements of the received convergence protocol packets from said terminal; and

means for transmitting the identification data of the lost convergence protocol packets on the link layer to said terminal in response to the link layer being not capable of securing a reliable transmission of the convergence protocol packets.

26. (New) A network element as claimed in claim 25, further comprising:

means for identifying the lost convergence protocol packets on the link layer to said terminal by defining the number of the lost convergence protocol packets and the data unit sequence number of the link layer that is assumed to be received next.

27. (New) A network element as claimed in claim 26, further comprising:

means for identifying each lost convergence protocol packet separately to said terminal by defining a link layer sequence number associated with each lost convergence protocol layer.

28. (New) A network element as claimed in claim 27, further comprising:

means for identifying the link layer sequence numbers associated with each lost convergence protocol packet separately.

29. (New) A network element as claimed in claim 25, further comprising:

means for transmitting the identification data of the lost convergence protocol packets on the link layer to said terminal in a link layer data unit comprising a command to move the receiving window.

30. (New) A network element for a packet-switched telecommunication system, said network element being arranged to receive data packets from a terminal supporting a packet-switched data transmission, said network element comprising:

a link layer for receiving data units and for supplying said data units further to a convergence protocol layer as convergence protocol packets for adaptation into user data packets;

means of a counter for defining a data packet number for the received convergence protocol packets;

means for acknowledging the received convergence protocol packets;

means for receiving identification data of the lost convergence protocol packets on the link layer in response to the link layer being not capable of securing a reliable transmission of the convergence protocol packets; and

means for updating the counter value to correspond to a counter value of the transmitter by taking into account the number of the lost convergence protocol packets in the counter value.

31. (New) A network element according to claim 30, wherein said telecommunication system is a mobile communication system, such as the UMTS or the GPRS system, using a packet-switched telecommunication protocol, the network element further comprising:

means for updating the counter value of the recipient by means of the identification data of the lost convergence protocol packets in a handover between the UMTS and the GPRS.

32. (New) A network element according to claim 30, wherein said telecommunication system is a mobile communication system, such as the UMTS or the GPRS system, using a packet-switched telecommunication protocol, the network element further comprising:

means for updating the counter value of the recipient by means of the identification data of the lost convergence protocol packets in a handover between the UMTS radio network subsystems.